

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-47. (Canceled)

48. (Currently amended) A method for the preparative synthesis of a molecule comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a molecule having a terminal $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ moiety and recovering the molecule comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$.

49. (Currently amended) A method for the preparative synthesis of a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant protein comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide having a terminal $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ moiety and recovering the glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$.

50. (Previously presented) The method according to Claim 49 wherein the $\alpha 1 \rightarrow 2$ fucosyltransferase is contacted with an oligosaccharide comprising a terminal $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ moiety.

51. (Currently amended) A method for the preparative synthesis of fucosyl-GM1 comprising contacting, in the substantial absence of other rat proteins, a recombinant

$\alpha 1 \rightarrow 2$ fucosyltransferase comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and the ganglioside GM1 and recovering fucosyl-GM1.

52. (Currently amended) A method for the preparative synthesis of a molecule comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$, said method comprising contacting, in the substantial absence of other rat proteins,

(a) a recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase comprising the amino acid sequence depicted in Figure 5 (SEQ ID NO: 8), or

(b) a cellular fraction of a recombinant cell containing a vector having a nucleotide sequence that encodes and expresses ~~an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8)~~ the recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase of (a), said cellular fraction containing the recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase and having $\alpha 1 \rightarrow 2$ fucosyltransferase activity,

with GDP-fucose and a molecule having a terminal $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ moiety and recovering a molecule comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$.

53. (Currently amended) A method for the preparative synthesis of a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$, said method comprising contacting, in the substantial absence of other rat proteins,

(a) a recombinant rat $\alpha 1 \rightarrow 2$ fucosyltransferase encoded by the nucleotide sequence depicted as SEQ ID NO: 7, or

(b) a cellular fraction of a recombinant cell containing a vector having and expressing the nucleotide sequence as depicted as SEQ ID NO: 7, said cellular fraction containing the recombinant rat $\alpha 1 \rightarrow 2$ fucosyltransferase of (a) and having $\alpha 1 \rightarrow 2$ fucosyltransferase activity,

with GDP-fucose and a glycolipid, glycoprotein, glycolipoprotein or oligosaccharide having a terminal Gal β 1 \rightarrow 3GalNAc moiety and recovering a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising Fuc α 1 \rightarrow 2Gal β 1 \rightarrow 3GalNAc.

54. (Original) The method according to Claim 53 wherein the rat α 1 \rightarrow 2 fucosyltransferase is contacted with an oligosaccharide comprising a terminal Gal β 1 \rightarrow 3GalNAc moiety.

55-62. (Canceled)

63. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant α 1 \rightarrow 2 fucosyltransferase comprising an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and a molecule having a terminal Gal β 1 \rightarrow 3 GalNAc moiety and recovering the molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc.

64. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant α 1 \rightarrow 2 fucosyltransferase consisting of an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a molecule having a terminal Gal β 1 \rightarrow 3 GalNAc moiety and recovering the molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc.

65. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant α 1 \rightarrow 2 fucosyltransferase consisting of

an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and a molecule having a terminal Gal β 1 \rightarrow 3 GalNAc moiety and recovering the molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc.

66. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc α 1 \rightarrow 2 Gal β 1 \rightarrow 3 GalNAc, said method comprising contacting, in the substantial absence of other rat proteins, a recombinant α 1 \rightarrow 2 fucosyltransferase the amino acid sequence of which consists of a catalytic domain defined by amino acids numbers 28-380 as depicted in Figure 5 (SEQ ID NO: 8) or by amino acids numbered 1-353 as depicted in Figure 3A (SEQ ID NO: 10).

67. (Previously presented) The method according to claim 63, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

68. (Previously presented) The method according to claim 64, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

69. (Previously presented) The method according to claim 65, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

70. (Previously presented) The method according to claim 66, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

71. (Currently amended) A method for the preparative synthesis of a fucosyl-GM1, comprising contacting, in the substantial absence of other rat proteins, a recombinant α 1 \rightarrow 2 fucosyltransferase comprising an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and the ganglioside GM1, and recovering fucosyl-GM1.

72. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc $\alpha 1 \rightarrow 2$ Gal $\beta 1 \rightarrow 3$ GalNAc, said method comprising contacting, in the substantial absence of other rat proteins,

(a) a recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase comprising the amino acid sequence depicted in Figure 3A (SEQ ID NO: 10), or

(b) a cellular fraction of a recombinant cell containing a vector having a nucleotide sequence that encode[[e]]s and expresses ~~an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10)~~ the recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase of (a), said cellular fraction containing the recombinant $\alpha 1 \rightarrow 2$ fucosyltransferase and having $\alpha 1 \rightarrow 2$ fucosyltransferase activity,

with GDP-fucose and a molecule having a terminal Gal $\beta 1 \rightarrow 3$ GalNAc moiety and recovering a molecule comprising Fuc $\alpha 1 \rightarrow 2$ Gal $\beta 1 \rightarrow 3$ GalNAc.

73. (Previously presented) The method according to claim 72, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein, or a free oligosaccharide.

74. (Previously presented) The method according to claim 71, wherein the amino acid sequence is encoded by the nucleotide sequence as depicted as SEQ ID NO: 9.

75. (Previously presented) The method according to claim 72, wherein the amino acid sequence is encoded by the nucleotide sequence as depicted as SEQ ID NO: 9.